ABSTRACT

PLATELET-RICH FIBRIN (PRF) MEMBRANE ON PERCENTAGE OF COLLAGEN FIBER SIZE AND EXPRESSION OF α-*SMOOTH MUSCLE ACTIN* AFTER CONJUNCTIVAL EXCISION

(Experimental Study on *Oryctolagus cuniculus*)

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Objective : to evaluate PRF membrane on percentage of collagen fiber size and expression of α-*smooth muscle actin* after conjunctival excision in rabbit.

Material and methods: Ten New Zealand white rabbit (20 eyes) were randomly divided into 2 groups. Group A (10 eyes) with right eye as control and left eye as treatment. Whereas Group B (10 eyes) with right eye as treatment and left eye as control. Control group carried out a conjunctival defect without any further procedure (bare sclera) whereas treatment group carried out defect conjunctiva with grafting of PRF membrane. Eyes were enucleated after 14 days to evaluate collagen fiber size and expression of α-*smooth muscle actin* in conjunctiva

Results: this study showed the size of collagen fibers in treatment group were statiscally significant lower than the control group ($p = 0.002$, $p < 0.01$). And so is percentage of the α–SMA expresion showed significantly lower in treatment group than in control with $p = 0.015$ ($\alpha < 0.05$)

Conclusion: PRF membrane may inhibit formation of conjunctival scar by reducing collagen synthesis and myofibroblas transdifferentiation

Keywords: PRF membrane, conjunctiva, scar, collagen, myofibroblas, α-*smooth muscle actin*